

REMARKS

The Applicants thank the Examiner for the thorough consideration given the present application. Claim 26 is cancelled herein without prejudice to or disclaimer of the subject matter contained therein. Claims 1-20, 23, 25, 28, 30-34, and 35 were previously cancelled without prejudice to or disclaimer of the subject matter set forth therein. Claims 21, 22, 24, 26, 27, 29, and 36-46 are pending, of which claims 21 and 43 are amended, and claim 46 is added. Claims 36 and 37 are withdrawn. Claims 21 and 46 are independent. The Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein.

Examiner Interview

If, during further examination of the present application, a discussion with the Applicants' Representative would advance the prosecution of the present application, the Examiner is encouraged to contact Carl T. Thomsen, Registration No. 50,786, at 1-703-208-4030 (direct line) at his convenience.

Rejection Under 35 U.S.C. § 112, first paragraph

Claims 21, 22, 24, 25, 27, 29, and 38-45 stand rejected under 35 U.S.C. § 112, first paragraph. This rejection is respectfully traversed.

The Examiner states that the specification as originally filed does not provide support for a combination of "vinyl ethers, vinyl esters and styrene" in combination with acrylic acids and/or methacrylic acids. This view of the Examiner is kindly rejected.

Actually, the description as originally filed, discloses that the polymerizable mass may contain as an alternative vinyl ethers and vinyl esters (paragraph [0024] of the published application) and styrene (paragraph [0025] of the published application). In addition, the specification as originally filed describes that the polymerizable mass may also contain acrylic acids and/or methacrylic acids (paragraph [0015] of the published application). Accordingly, a combination of vinyl ethers, vinyl esters and styrene with either acrylic acid or methacrylic acid is disclosed in the description as originally filed.

The Examiner also states that the description as originally filed does not give support for the amounts of inorganic filler, flame-proofing agent, radiation-sensitive initiator and colorant, each in an amount starting from 0 %.

Regarding independent claim 21, the Applicants submit that the term “optionally” for each of these components provides support for an amount of 0 %. In combination with the preferred ranges outlined in the description as originally filed, for example 0.1 to 10 % for the colorant, an amended range is created by taking the lower limit of 0 % which is the interpretation of an optional component in combination with the upper limit of the preferred range, such as 10 %. Accordingly, each of the claimed ranges for the optional components in independent claim 21 is supported by the description as originally filed.

In addition, the Examiner will note that the upper limit of the weight range for the flame-proofing agent is 10%.

Further, the Applicants have amended claim 43 in order to replace the words “hollow bodies” with the word “abhesive hollow bodies.”

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejections Under 35 U.S.C. §102(b) and 103(a)

Claims 21, 26, 38, 42, and 43 stand rejected under 35 U.S.C. §102(b) as being anticipated by, or in the alternative, under 35 U.S.C. §103(a) as being unpatentable over Komiyama et al. (U.S. 5,118,567);

claim 22 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Komiyama et al., and further in view of Spada et al. (U.S. 6,293,037);

claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Komiyama et al., and further in view of Bemmels et al. (U.S. 3,617,362);

claim 27 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Komiyama et al., and further in view of Melby (U.S. 4,388,448);

claim 29 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Komiyama et al., and further in view of Lautenschlaeger et al. (U.S. 4,814,215); and

claim 38 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Komiyama et al., and further in view of Woods (U.S. 4,414,275);

claims 39, and 41 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Komiyama et al., and further in view of Czepel et al. (U.S. 4,277,532).

These rejections are respectfully traversed.

Arguments Regarding Independent Claims 21 and 46

The Examiner is of the opinion that claims 21, 26, 38, 42 and 43 are unpatentable under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious in view of Komiyama et al. (US 5,118,567).

The view of the Examiner is kindly rejected. The presently claimed invention differs in many aspects from the disclosure of Komiyama et al.

The presently claimed invention is directed to a pressure-sensitive adhesive material that has a defined three-dimensional structure. The three-dimensional structure is characterized in that the pressure-sensitive adhesive itself is present in the form of strings, strands or strips, which when taking a cross-sectional view, have a round, semicircular, oval, elliptical, triangular, quadrangular, v-shaped, polygonal or irregular cross-sectional contour. In other words, the pressure sensitive adhesive material of the presently claimed invention that is present in form of strings, strands or strips is made of strings, strands or strips that are not flat (see page 2, last paragraph and page 3, first paragraph of the patent application as originally filed as well as FIG. 1).

Komiyama et al. describes adhesive tapes containing an adhesive layer (layer 3). Said layer is equivalent to the pressure-sensitive adhesive material of the presently claimed invention. However, the adhesive layer according to Komiyama et al. has a three-dimensional structure, but this structure is characterized in that each of the layers according to Komiyama et

al. is flat or plain. This is obvious from the FIG. 1 or FIG. 4, which in each case gives a cross-sectional view of the adhesive layer, that shows that these layers are perfectly flat. These layers have to be flat in any case in order to solve the object of the invention according to Komiyama et al., which is serving as a dicing tape for holding wafers (column 2, lines 27 to 30). Wafers are in any case equipped with a flat or planar surface, so that the best adhesion between a dicing tape and a wafer is obtained when both the adhesive tape and the wafer are equipped with a flat surface. Accordingly, the adhesive material of the presently claimed invention is distinguished from the disclosure of Komiyama et al. in that it has a defined cross-sectional contour that is not flat.

Furthermore, the Examiner is of the opinion that changing the surface of the adhesive material is only a design matter. However, this view is kindly rejected. The particular configuration of the pressure-sensitive adhesive, that is the defined cross-sectional contour that is not flat, leads to the specific effect that superior adhesion to non-flat surfaces is obtained. Accordingly, the configuration of the surface is not a design matter.

While the Applicants totally disagree with the view that the original wording of independent claim 21 can be interpreted as a product-by-process claim, the term "said material is produced by polymerization of a polymerizable mass" has been amended to read "said material is a cured polymerization mass". Support for this amendment can be found in paragraph [0041] of the application as published. Accordingly, the composition of the polymerizable mass has to be interpreted as a limiting feature as well.

With respect to the Examiner's remark that the adhesive material according to Komiyama et al. is similar or identical to the pressure-sensitive adhesive material of the presently claimed invention, the Applicants point out that the adhesive layer according to Komiyama et al. is made up of epoxy resins, i.e. epoxy resins are a compulsory component of the adhesive material according to Komiyama et al. Epoxy resins are generally prepared from epichlorohydrin and bisphenol A, and feature epoxide groups at the chain ends for cross-linking. As epoxy resins are made of bisphenol A, which is an endocrine disruptor, epoxy resins may be harmful.

In order to avoid any health risks, the polymerizable mass according to the presently claimed invention can be prepared without using epoxy resins. In other words, epoxy resins cannot be a component of the pressure-sensitive adhesive material of the presently claimed invention which is perfectly clear from the wording of independent claims 21 and 46.

As outlined above, the pressure sensitive adhesive material of the presently claimed invention differs both in structure and composition from the disclosure of Komiyama et al. Therefore, it is perfectly clear that the presently claimed invention is neither anticipated by nor obvious in view of Komiyama et al.

As none of the secondary references discloses the missing features and distinguishing features, respectively, the presently claimed invention is not obvious in view of Komiyama et al. and the further cited references.

At least for the reasons described above, the Applicants respectfully submit that the combination of elements as set forth in each of **independent claims 21 and 46** is not disclosed or made obvious by the combination of prior art of record, including Komiyama et al.

Accordingly, reconsideration and withdrawal of these rejections are respectfully requested.

Independent claim 21 is in condition for allowance.

Dependent Claims

The Examiner will note that dependent claim 26 has been cancelled, and dependent claim 43 have been amended.

All dependent claims are in condition for allowance due to their dependency from allowable independent claims, as well as for the additional novel limitations set forth therein.

All claims of the present application are now in condition for allowance.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, he is invited to telephone Carl T. Thomsen (Reg. No. 50,786) at (703) 208-4030 (direct line).

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

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By 
for James M. Slattery
Reg. No. 28,380

50,786

JMS/CTT/ktp 

BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Attorney for Applicants